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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/252,485	02/18/1999	JOHN S. HENDRICKS	5615	4559

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EXAMINER

GRANT, CHRISTOPHER C

ART UNIT	PAPER NUMBER
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2611

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DATE MAILED: 04/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/252,485

Applicant(s)

HENDRICKS ET AL.

Examiner

Christopher Grant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-6, 16-20, 22-25, 34-40, 42, 43, 46-55, 57, 60-64, 66, 67, 69 and 71-76 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 2-6,16-20,22-25,34-40,42,43,46-55,57,60-64,66,67,69 and 71-76.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 2-6, 42-43, 46-54, 57, 60-64, 66 and 73-76 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The current invention is an apparatus and method for outputting a plurality of signals or an apparatus and method for displaying a picture on a picture with upgrade capability as illustrated in figures 12a, 12b and 14.

The specification at page 3, lines 17-18 indicates that **“the set top terminal may be achieved through a set of hardware upgrades to (1) existing set top converter upgraded with a circuit card”**.

The specification at page 24, lines 3-10 and page 39, line 23 – page 43, line 21 describe hardware upgrades A-E.

The specification at page 43, line 23 – page 44, line 25 describes expansion card slots.

The specification at page 49, lines 11 – 15 describes that **“users who desire picture-on-picture capability can be provided with a set top terminal 220 having upgraded hardware components that allow two or more channels to be tuned and decompressed at any given time”**.

Figure 14 illustrates a set top terminal with an expansion card interface 322.

The specification and drawings fail to support the following newly claimed subject matter:

- a) ***"An apparatus for outputting a plurality of audio signals for at least one video signal comprising a plurality of tuners, a plurality of video decompressors...wherein the apparatus is an upgrade card insertable into an existing set top terminal"*** now recited in claim 2.
- b) ***"second signal processing components comprising a second tuner, a second demodulator, a second demultiplexor, a second video/graphics text demultiplexor, a second decompressor.....wherein at least the second signal processing components are located on an upgrade card insertable into an existing set top terminal to provide digital picture-on-picture capability"*** now recited in claim 42, lines 13-26;
- c) ***"An apparatus for providing digital picture-on-picture capability, wherein the apparatus is an upgrade card insertable into an existing set top terminal comprising a plurality of tuners...a plurality of demodulators, a plurality of demultiplexors, a plurality of decryptors....and a plurality of output ports"*** now recited in claim 75; and
- d) ***"An apparatus for providing digital picture-on-picture capability, wherein the apparatus is an upgrade card insertable into an existing set top terminal comprising a plurality of tuners...a plurality of decompressors...a plurality of output ports"*** now recited in claim 76.

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The specification fails to describe the contents or components of the upgrade card. In other words, the disclosure does not describe or suggest that the upgrade card contains one or more of tuner 603, demod 606, demux 609, decrypt 600, decompressor 612, tuner 603', demod 606', demux 609', decrypt 600' and decompressor 612' for the apparatus as now recited in claims 2, 42, 75 and 76. The specification recites a broad statement that the set top terminal has the capability of having an upgrade card, but it fails to describe the actual contents or components of the upgrade card. Figure 14 illustrates a set top terminal with an expansion card interface 322, but it does not illustrate the contents or components of the upgrade card. The components in the hardware upgrades of figures 12a and 12b do not correspond to claims 2, 42, 75 and 76.

Claim 2 recite that the apparatus is an upgrade card comprising plural tuners, plural decompressors etc. The specification and drawings fail to describe the boundary, contents or components of the upgrade card as described in claim 2. For the above reasons, the Examiner posits that claim 2 limitations are new matter and they must be canceled from the claims.

Further, claim 42 indicates that the second set of components (second tuner, second demod, second demux etc.) is located on an upgrade card. The specification and drawings fail to describe the boundary, contents or components of the upgrade card as described in claim 42. For the above reasons, the Examiner posits that claim 42 limitations are new matter and they must be canceled from the claims.

Moreover, claims 75 and 76 recite plural components such as plural tuners, plural demodulators, plural demultiplexors, plural decryptors, plural decompressor etc. The

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specification and drawings fail to describe the boundary, contents or components of the upgrade card as described in claims 75 and 76. If claims 75 and 76 are adequately described in the specification, then the existing set top terminal is an empty terminal that does not have a tuner (or any other significant component) and cannot even tune to a single channel. An empty set top terminal cannot be an existing set top terminal. For the above reasons, the Examiner posits that claims 75 and 76 limitations are new matter and they must be canceled from the claims.

3. Claim 55 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The current invention is an apparatus and method for outputting a plurality of signals or an apparatus and method for displaying a picture on a picture with upgrade capability as illustrated in figures 12a, 12b and 14.

The specification (at page 3, lines 17-18, page 24, lines 3-10, page 39, line 23 – page 43, line 21, page 43, line 23 – page 44, line 25 and page 49, lines 11-15) generally describes expansion card slots and hardware upgrades. Figure 14 illustrates a set top terminal with an expansion card interface 322.

The specification fails to enable one of ordinary skill in the art how to make or use **“the apparatus is an upgrade card, the upgrade card insertable into an existing settop terminal to provide digital picture-on-picture capability”** as recited in claim 55.

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Claim 55 catalogs almost all the components of figure 14 to be the upgrade card to an existing set top terminal. If claim 55 subject matter is supported in the specification, then the existing set top terminal is an empty terminal that does not have a tuner (or any other significant component) and cannot even tune to a single channel. An empty set top terminal cannot be an existing set top terminal. For the above reasons, the Examiner posits that claim 55 is non-enabling.

4. Claim 72 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 72 is vague because it is dependent on canceled claim 41.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 16-20, 22-25 and 34-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai in view of Willis and further in view Ryu.

Considering claims 22 and 34-35, Arai discloses an apparatus for displaying a picture on a picture and corresponding method comprising:

a) a plurality of tuners (5A, 5B) (figures 3A and 3B) for tuning;

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- b) a plurality of demodulators (27, 28) or demodulating;
- c) a plurality of output ports wherein at least two of the plurality of output ports are connected to different tuners (see audio output from demod (27) to switch (10), three video outputs from demod (27) to combiner (8), audio output from demod (28) to switch (10), three video outputs from demod (28) to combiner (8)); and
- d) a microprocessor (26) connected to the plural tuners (5A, 5B) and demodulators (27,28) for coordinating signal processing.

Note that Arai is interested in processing several different television standards for simultaneous display (col. 1, lines 5-15) and he indicated that various changes or modifications could be made to his system (col. 17, lines 10-34). However, he fails to disclose **(a)** a plurality of demultiplexors, a plurality of decrypters, a plurality of decompressors and a plurality of NTSC encoders, **(b)** that at least one video signal may have more than one of the plurality of audio signals, and **(c)** that the method uses an upgrade card inserted in an existing set-top terminal as recited in the claims.

Wasilewski discloses a system for transmitting and receiving digital television signals (figures 1-14). Digital television is another type of television standard. The digital receiver (figure 14) comprises: a demodulator (250), demultiplexer (258, 268, 272), decryptors (274), decompressors (276, 280) for decompressing video, audio and text and NTSC encoders (276,280) (columns 21-24). These are typical elements in a digital receiver for processing digital signals transmitted from a central broadcasting facility. Further, note that Wasilewski's system may be used in various applications. See col. 2, line 41 - col. 3, line 14 and col. 34, lines 12-30.

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Ryu discloses an apparatus for displaying a picture on a picture and corresponding method comprising a plurality of tuners (9,10), video processing circuits (4,5) for outputting video signals, and sound circuits (8, 12, 13) for outputting more than one of plurality of audio signals (native or foreign) corresponding to at least one video signal. See the entire reference including but not limited to the abstract and col. 2, lines 20-62.

It would have been obvious to one of ordinary skill in the art to modify Arai's system to include a plurality of digital receiving circuit elements such as demultiplexors, decrypters, decompressors and NTSC encoders, as taught by Wasilewski, for the typical advantage of providing digital television receiving elements to properly decode and process digital signals transmitted from a central broadcasting facility and/or to provide higher quality signals to viewers.

Additionally, it would have been obvious to one of ordinary skill in the art to modify the combined systems of Arai and Wasilewski to include at least one video signal to have more than one of the plurality of audio signals, as taught by Ryu, for the advantage of providing a plural picture display receiver with the ability to select a desired audio output based on a plurality of audio signals for a video signal.

Moreover, it would have been an obvious matter of design choice to utilize an upgrade card, since the modification would have involved a mere separation of functions/parts. *Nerwin V. Erlichman*, 168 USPQ 177, 179 (PTO Bd. of Int. 1969).

Furthermore, it would have been obvious as a matter of design choice to make any apparatus or method steps to be insertable into any video processing receiver such as a set-top box, television or VCR, since audio and video signals are commonly received by video processing equipments that are inclusive of the set-top box , television and VCR.

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Claims 16 and 17 are rejected for the same reasons as described above in the rejection of claims 22 and 34-35. The additionally claimed output port for external devices is an obvious modification (if necessary) since a set top terminal have plural outputs for connecting a VCR, television and other audio-video devices.

Claims 23-25 and 38-40 are met by the combined systems of Arai, Wasilewski and Ryu, wherein Ryu discloses switching (8,12) between audio outputs and for a selected video signal throughout the entire reference including but not limited to col. 2, lines 21-62.

Claims 18 and 36-37 are met by the combined systems of Arai, Wasilewski and Ryu, wherein Arai discloses a combiner (8) for overlaying one program signal over another in col. 4, lines 21-27 and col. 6, lines 37-39, 50-54. Additionally, note that Ryu discloses switching (8,12) between audio outputs.

Claim 19 is met by the combined systems of Arai, Wasilewski and Ryu, wherein Ryu discloses a first language (native language) and a second language (foreign language) above.

As for claim 20, the combined systems of Arai, Wasilewski and Ryu, fail to specifically disclose stereo audio signals in first and second languages as recited in the claim. It would have been obvious to one of ordinary skill in the art to modify the combined systems of Arai, Wasilewski and Ryu to include stereo audio signals in first and second languages for the typical advantage of providing audio signals with improved fidelity.

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7. Claims 67, 69 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arai, Wasilewski and Ryu as applied to claims 2, 16, 22 and 34 above, and further in view of Park.

As for claims 67, 69 and 71, the combined systems of Arai, Wasilewski and Ryu fail to specifically disclose that the signals are HDTV signals as recited in the claims.

Park discloses a picture in picture system comprising a HDTV receiver for receiving and processing a plurality of HDTV signals. See abstract and col. 2, line 8 - col. 4, line 11.

It would have been obvious to one of ordinary skill in the art to modify the combined systems of Arai, Wasilewski and Ryu to include HDTV signals, as taught by Park, for the advantage of receiving and processing television signals of higher quality.

Response to Arguments

8. Applicant's arguments submitted 1/13/2003 have been considered.

Response to Applicant's arguments

a) Applicant provided support for the changes to claims 2, 42, 75, 76 at pages 6-7 (last paragraph) of the amendment filed 1/13/2003.

In response, the Examiner posits that the specification does not support the newly claimed subject matter. In general, Applicant's specification describes an apparatus for outputting a plurality of audio signals for one video signal or an apparatus for displaying picture in picture may be achieved through a set of hardware upgrades to an existing set top terminal. The specification and drawings do not describe the contents or the

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components of the hardware upgrade. Therefore, the Examiner contends that the amendments to claims 2, 42, 75 and 76 are new matter that must be canceled from the claims. In addition, originally filed claim 55 is non-enabling because the specification fails to teach how to make or use an apparatus as described in the claim.

b) Applicant argues that (b1) *“the feature of an upgrade card insertable into an existing set top terminal to provide digital picture in picture is not obvious as a matter of design choice. The present application teaches that this feature has the benefit of keeping costs down for consumers, since consumers may avoid incurring cost of replacing an exiting legacy set top terminal while also increasing its potential functionality”* (page 8 last paragraph); and (b2) Arai and Wasilewski do not disclose or suggests an upgrade card insertable into an existing set top terminal (page 9, fourth paragraph) of the amendment.

In response to Applicant's argument that the benefit of the invention is to keep cost low while increasing potential functionality, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Furthermore, it has been held to be within the general skill of a worker in the art to make plural parts separate as a matter of obvious engineering choice. *Nerwin V. Erlichman*, 168 USPQ 177, 179 (PTO Bd. of Int. 1969).

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Moreover, it is well known in the art to have hardware upgrades to existing set top terminals as disclosed by Bowen (5,367,571) for the typical advantage of upgrading an existing or old set top terminal with new or advance features.

c) Applicant argues that “...*in contrast to Arai, Wasilewski and Ryu, claim 16 recites an apparatus for displaying a picture on a picture, wherein the apparatus is a set top terminal, comprising a plurality of output ports for external devices*” on page 10, first paragraph of the amendment.

In response, Applicant should note that a set top terminal typically has plural outputs to connect a VCR, television and other external audio-video devices to provide various entertainment features to customers.

For all the reasons described above, the Examiner posits that Applicant's arguments are not persuasive.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

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advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bowen et al. disclose a set top terminal with hardware upgrade.

11. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Grant whose telephone number is (703) 305 4755. The examiner can normally be reached on Monday-Friday 8:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile can be reached on (703) 305-4380. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872 9314 for regular communications and (703) 872 9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.


Christopher Grant
Primary Examiner
Art Unit 2611

CG
April 3, 2003